

**ABSTRACT**

5 A method of providing restoration routes for protecting traffic in a mesh  
network is described. The method comprises the steps of generating a set of  
eligible restoration routes for each span in the network, establishing a bi-  
criteria objective function in terms of route length and capacity cost for  
selecting a set of restoration routes, and selecting a set of restoration routes  
for each span from the eligible restoration routes in dependence upon the bi-  
10 criteria objective function. Embodiments of the invention may be useful for  
shortening the lengths, in terms of hops, of existing restoration routes in a  
mesh-restorable network and in some cases with negligible spare capacity  
penalty.